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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 August 2007*.

2a)☒ This action is **FINAL.** 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,12-36,38-50 and 52-55* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,12-36,38-50 and 52-55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

This Office Action is responsive to the amendment filed August 10, 2007. Claims

1-10, 12-31, 34-36, and 38-45 are amended. Claims 11, 37, and 51 are cancelled.

Claims 1, 30, and 44 are independent claims. Claims 1-10, 12-36, 38-50, and 52-55

remain pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 25, 28, 30-33, 36, 42-47, and 50 are rejected under 35 U.S.C. 102(b)

as being anticipated by Johnson et al. (hereinafter Johnson), United States Patent

Application Publication number 2003/0001896.

Regarding claims 1-4, Johnson teaches an electronic device readable storage

medium storing electronic device executable instructions for managing a graphical

interface, the medium comprising: instructions for providing a graphical interface (see

paragraph [0003]; *"the present invention relates to a measurement system graphical*

user interface for allowing a user to easily configure measurement and automation

applications"); instructions for providing at least one hardware object accessible to said

electronic device, where the hardware object represents a hardware device and is

depicted in said graphical interface, the hardware object configured to be interactive

with said hardware device and to enable communication between said graphical

interface and said hardware device (see paragraph [0099]; "*the graphical icon that*

visually represents the node represents the function, and the underlying program

instructions and/or data structures which are represented by the node graphical icon are

actually performing the function. Thus the specification and claims of the present

application refer generally to a node performing a function, it being understood that the

node includes or represents underlying program instructions and/or data structures

which are executed by a processor (or programmable hardware element) to perform the

function", the node as taught by Johnson is the same as the hardware or software

device of the instant application); instructions for providing at least one of the group of a

software object and an analysis object (see paragraph [0255]; "*Upon execution of the*

graphical program, the node may receive the measurement task specification as input,

invoke an expert system to analyze the measurement task specification and generate a

run-time specification for the measurement task in response to the analyzing, as shown

in 750 and 770 of FIG. 12", the expert system is equivalent to the analysis object);

wherein said software object is representative of a software device accessible to said

electronic device, where the software object is depicted in said graphical interface and

is configured to be interactive with said software device and to enable communication

between said graphical interface and said software device (see paragraph [0107]; "*The*

run-time builder may also provide various parameters to hardware and/or software

resources or devices comprised in the system to configure the hardware and/or

software devices in the system according to the run-time specification to allow these

devices to be used during execution of the run-time 790. In other words, the run-time builder 780 may configure one or more measurement devices according to the run-time specification 770"); wherein said hardware device and said software device are accessible through the graphical interface (see paragraph [0084]; "*As shown, the application program 202A or 202B interfaces with the measurement driver API 214 in order to access capabilities of the measurement driver 212*"); wherein said analysis object is adapted to communicate with at least one of said hardware object and said software object for analysis of data from at least one of said hardware object and said software object (see paragraph [0255]; "*Upon execution of the graphical program, the node may receive the measurement task specification as input, invoke an expert system to analyze the measurement task specification and generate a run-time specification for the measurement task in response to the analyzing, as shown in 750 and 770 of FIG. 12*"); and instructions for displaying said hardware object and said software object to a user (see paragraph [0099]; "*It should be noted that a node for use in a graphical program typically includes a graphical icon which may be displayed in the graphical program to visually represent the node in the graphical program*", a node is equivalent to a hardware or software object).

The node as taught by Johnson can be a hardware object, a software object (as recited in claim 2 of the instant application), and/or an analysis object (as recited in claim 3 of the instant application). Johnson further teaches the step of receiving program steps for execution by said hardware object (as in claim 4 of the instant application) (see Johnson paragraph [0099]; "*underlying program instructions and/or*

data structures which are executed by a processor (or programmable hardware

element...").

Regarding claims 5-6, Johnson teaches that a plurality of hardware objects are

provided for a single hardware device, and a plurality of hardware objects are provided

for a plurality of hardware devices. (see paragraph [0100]; Johnson's invention allows

several different types of nodes to be created to accomplish various measurement tasks

such as reading and writing to and from a measurement device).

Regarding claim 25, Johnson teaches that said graphical interface is

implemented with an extensible API (see Johnson paragraph [0158]).

Regarding claim 28, Johnson teaches that said graphical interface is adapted to

operate on a plurality of operating systems (see Johnson paragraph [0053]). Although

Johnson does not specify exactly which operating systems or exactly how many

operating systems his invention supports, it is inherent and well-known in the art that

software code is capable of executing on more than one different operating system.

Claims 30, 31, and 36 recite a method with substantially the same limitations as

claims 1-4. Therefore, claims 30, 31, and 36 are rejected under the same rationale.

Claims 32 and 33 recite a method with substantially the same limitations as

claims 5 and 6, respectively. Therefore, claims 32 and 36 are rejected under the same

rationale.

Claims 42 and 43 recite a method with substantially the same limitations as

claims 26 and 27, respectively. Therefore claims 42 and 43 are rejected under the

same rationale.

Claims 44, 45, and 50 recite a system with substantially the same limitations as claims 1-4. Therefore, the claims are rejected under the same rationale.

Claims 46 and 47 recite a system with substantially the same limitations as claims 5 and 6, respectively. Therefore, the claims are rejected under the same rationale.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7, 8, 12-14, 34, 35, 38, 48, 49, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (2003/0001896) *supra* and Fuller, III et al. (hereinafter Fuller), United States Patent Application Publication number 2003/0035008.

Regarding claim 7, Johnson teaches every limitation of claim 7 except instructions for scanning for available hardware; and instructions for creating a hardware object for each hardware device detected and not already associated with a hardware object. Fuller teaches a method and apparatus for controlling an instrumentation system that automatically scans for available hardware (instruments) and allowing users to select hardware (instruments) from a list of detected hardware (instruments) (see paragraph [0020], "*the computer system may automatically detect the one or more message-based instruments that are connected to the computer*

system. In other words, the computer system may automatically scan for message-

based instruments coupled to the system"). It would have been obvious to a person of

ordinary skill in the art at the time the invention was made to combine the scanning for

available hardware of Fuller with the invention of Johnson in order to allow custom

hardware components to be added to the system.

Regarding claim 8, Johnson teaches all the steps of claim 8 except that

instructions for scanning involves instructions for receiving user-defined commands to

be sent to said hardware device to attempt to identify said hardware device. Fuller

teaches allowing the user to initiate a hardware scan. A user-initiated hardware scan is

being interpreted with the broadest reasonable interpretation to be the same as sending

user-defined command to a hardware device (see paragraph [0020], "*A user interface*

(UI) may be provided that allows the user to initiate a scan for message-based

instruments. The user may scroll through and select an instrument from a list of

detected instruments, or may otherwise specify a particular instrument to be

communicated with"). It would have been obvious to a person of ordinary skill in the art

at the time the invention was made to combine the user-initiated hardware scan of

Fuller with the invention of Johnson in order to allow custom hardware components to

be added to the system on demand.

Regarding claims 12-14, Johnson teaches all the steps of claims 12-14 except

that at least one of instructions for providing at least one hardware object and providing

at least one software object further comprises instructions for accessing at least one of

a hardware object and a software object located on a web page. It should be noted that

if a resource is to be accessible on a web page, it is inherent that it is accessible on a remote electronic device and over a network. Fuller teaches that tasks associated with hardware instruments may be created and made accessible on a web site (see paragraph [0168]; "*Tasks may be collected and organized for distribution, for example through a website*"). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the invention of Fuller with the invention of Johnson in order to allow measurement or testing over a network.

Claims 34 and 35 recite a method with substantially the same limitations as claims 7 and 8, respectively. Therefore, the claims are rejected under the same rationale.

Claim 38 recites a method with substantially the same limitations as claim 12. Therefore, claim 38 is rejected under the same rationale.

Claims 48, 49, and 52 recite a system with substantially the same limitations as claims 7, 8, and 12, respectively. Therefore, the claims are rejected under the same rationale.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (2003/0001896) *supra* and Hsiung et al. (hereinafter Hsiung), United States Patent Application Publication number 2003/0083756.

Regarding claims 9 and 10, Johnson teaches all the elements of claim 9-10 except that said analysis object filters data and plots data. Hsiung teaches a system for monitoring industrial components with an analysis component that performs filtering

(see paragraph [0056]; "*The upload process takes data from the acquisition device and uploads them into the main process manager 314 for processing. Here, the data are in electronic form. In embodiments where the data has been stored in data storage, they are retrieved and then loaded into the process. Preferably, the data can be loaded onto workspace to a text file or loaded into a spread sheet for analysis. Next, the filter process 302 filters the data to remove any imperfections*") and plotting (see paragraph [0058]; "*A baseline correction process may also find response peaks, calculate* $\Delta R/R$, *and plot the* $\Delta R/R$ *verses time stamps, where the data have been captured*") of data. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the filtering and plotting of data of Hsiung with the invention of Johnson for the purpose of providing data analysis functionality.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (2003/0001896) *supra*, Fuller (2003/0035008) *supra*, and Hsiung (2003/0083756) *supra*.

Regarding claim 15, Johnson/Fuller teach all the limitations of claim 15 except that instructions for accessing is performed by passing commands over said network in a MATLAB environment. However, Hsiung teaches using MATLAB in association with the invention (see paragraph [0534]; "*Multi-way PCA is a natural choice since PCA is already included, algorithms are available for evaluation in Matlab toolboxes, and the technique serves as a good benchmark when discussing benefits of other algorithms*"). It would have been obvious to one of ordinary skill in the art that the MATLAB

environment could be used as taught by Hsiung with the invention taught by

Johnson/Fuller.

Claims 16-17, 27, 39, 40, 43, 53, and 54 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Johnson (2003/0001896) *supra* and Schmit et al. (hereinafter

Schmit), United States Patent Application number 2003/0004670.

Regarding claims 16-17, Johnson teaches all the limitations of claims 16-17

except instructions for modifying at least one of said hardware object and said software

object wherein the said step of modifying specifies a protocol for use by said hardware

object for communication with said hardware device. Schmit teaches a system and

method for building a measurement system in which the most efficient protocol to use

with each measurement device is determined and applied (see Schmit paragraph

[0500]). It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the hardware protocol selection system of Schmit with

the invention of Johnson for the purpose of making the measurement system more

efficient.

Regarding claim 27, Johnson teaches every limitation of claim 27 except

instructions for generating an analysis object that can be used in SIMULINK. However,

Johnson's invention makes use of the LabVIEW environment for generating analysis

objects. (see Johnson paragraph [0101]). Schmit teaches that SIMULINK is similar in

function to LabVIEW (see Schmit paragraph [0619]), so it would have been obvious to

one of ordinary skill in the art at the time the invention was made to develop the

invention of Johnson to be operable with SIMULINK for the purpose of increased

interoperability.

Claims 39 and 40 recite a method with substantially the same limitations as

claims 16 and 17. Therefore, claims 39 and 40 are rejected under the same rationale.

Claim 43 recites a method with substantially the same limitations as claim 27.

Therefore, claim 43 is rejected under the same rationale.

Claims 53 and 54 recite a system with substantially the same limitations as

claims 16 and 17. Therefore, claims 53 and 54 are rejected under the same rationale.

Claims 18-24, 26, 41, 42, and 55 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Johnson (2003/0001896) *supra*, Hsiung (2003/0083756) *supra*, and

Pike et al. (hereinafter Pike), United States Patent Application Publication number

2003/0056018.

Regarding claims 18-20, Johnson/Hsiung teach all the limitations of claims 18-

20 except that modifying modifies a value stored in an array of an array-based

environment; the step of modifying a value stored in an array of an array-based

environment, thereby modifying at least one of said hardware object and said software

object; and the step of exporting data from said graphical interface to an array-based

environment. Pike teaches a system for linking users to control instruments wherein an

array-based environment can be used to change the properties of the control

instruments (see paragraphs [0010] and [0070]). Pike further teaches that the graphical

user interface can be used to export data to an array-based environment such as

MATLAB (see paragraph [0040]). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the array-based environment steps of Pike with the measurement systems of Johnson/Hsiung in order to provide array-based control of the measurement devices.

Regarding claims 21-24, Johnson/Hsiung teach all the limitations of claims 21-24 except instructions for converting user actions with the graphical interface into MATLAB code that comprises an analysis routine and steps to create an analysis object, configure the analysis object and write and read data from the analysis object. Pike teaches converting user actions with the graphical interface into interpreted programming code capable of performing mathematical computations for modeling, simulation, graphics, or data analysis related to control instruments. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the invention of Pike with the combined inventions of Johnson/Hsiung in order to provide data analysis capabilities.

Regarding claim 26, Johnson/Hsiung teach all the limitations of claim 26 except instructions for generating an analysis object that can be used in MATLAB. Pike teaches that the user program may be associated with the syntax of any interpreted programming environment, such as MATLAB (see Pike paragraph [0040]). It would have been obvious to one of ordinary skill in the art to combine the invention of Pike with the inventions of Johnson/Hsiung in order to provide support for using the MATLAB environment.

Claim 41 recites a method having substantially the same limitations as claim 18. Therefore, claim 41 is rejected under the same rationale.

Claim 42 recites a method having substantially the same limitations as claim 26. Therefore, claim 42 is rejected under the same rationale.

Claim 55 recites a system having substantially the same limitations as claim 18. Therefore, claim 55 is rejected under the same rationale.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (2003/0001896) *supra* and Phathayakorn et al. (hereinafter Phathayakorn), United States Patent number 5,986,653.

Regarding claim 29, Johnson teaches all the limitations of claim 29 except that said graphical interface comprises a tree view, wherein said tree view groups said hardware objects and said software objects by a functionality characteristic. Tree views of hardware and software objects grouped by functionality were a well-known graphical user interface technique at the time the invention was made. Phathayakorn shows selecting a functional group of objects from a tree view graphical representation (see Figures 2A-5B). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the tree view graphical representation of Phathayakorn to the invention of Johnson in order to provide a representation of the devices on the user interface.

Response to Arguments

Amendments made to claims 15 and 22 to clarify the scope of the claims are accepted by the examiner. Accordingly, the 35 USC § 112 rejections of claims 15 and 22 are withdrawn.

Applicants assert that Johnson does not disclose "said hardware device and said software device are accessible through the graphical interface" and "displaying said hardware object and said software object to a user". The examiner respectfully disagrees.

At issue are the Applicants' assertions that (1) the node of Johnson does not display both hardware objects and software objects in a single graphical interface, and (2) the hardware device and software device are not accessible in Johnson. The examiner respectfully disagrees with both assertions.

Johnson paragraph [0107] specifically mentions configuring both hardware devices and software devices using the same user interface ("*The run-time builder may also provide various parameters to hardware and/or software resources or devices comprised in the system to configure the hardware and/or software devices in the system according to the run-time specification to allow these devices to be used during execution of the run-time 790. In other words, the run-time builder 780 may configure one or more measurement devices according to the run-time specification 770*").

Johnson paragraph [0084] describes accessing the software drivers that control the hardware devices ("*As shown, the application program 202A or 202B interfaces with*

the measurement driver API 214 in order to access capabilities of the measurement driver 212"). Configuring the hardware and software devices for execution is the same as accessing the hardware and software devices. When the devices are executed and the measurements are taken, these devices are accessed.

In the last paragraph of page 6 of the instant application specification, a software device is broadly defined as "a unit of code capable of receiving an input and/or sending an output. Examples of inputs and outputs can include, but are not limited to, signals, data or other types of information. Examples of receiving and sending can consist of writing information to a memory location or passing information to a communications port, such as a serial port, or a buffer. Examples of software devices include, but are not limited to, DLLs, objects, subroutines, and databases". This definition of a software device appears to cover any implementation of code, including the software devices and measurement drivers of Johnson paragraphs [0107] and [0084], respectively.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Alvesteffer whose telephone number is (571) 270-1295. The examiner can normally be reached on Monday-Friday 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached on (571)272-4048. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stephen Alvesteffer
Examiner
Art Unit 2173

10-24-2007

TADESSE HAILU
PRIMARY EXAMINER